

What is claimed is:

1. An electric power steering device comprising:  
a steering assist electric motor having an output shaft;

a speed reduction mechanism including an input shaft disposed coaxially with the output shaft of the electric motor; and

a power transmission joint which couples the output shaft of the electric motor to the input shaft of the speed reduction mechanism for power transmission, wherein

the power transmission joint includes an annular first engagement member co-rotatably connected to the output shaft of the electric motor, an annular second engagement member co-rotatably connected to the input shaft of the speed reduction mechanism, and an elastic member disposed between the first and second engagement members for transmitting a torque between the first and second engagement members,

the elastic member includes an annular main body, and a plurality of engagement arms provided at a predetermined interval circumferentially of the main body as extending radially from the main body,

the first and second engagement members each include a plurality of engagement projections engaged with the respective engagement arms of the elastic member

circumferentially of the main body,

the engagement arms of the elastic member each include a pair of power transmission faces, which are engaged with power transmission faces of corresponding engagement projections of the first and second engagement members with interferences, and

the power transmission faces of the engagement arms include power transmission faces each having a relatively great interference and power transmission faces each having a relatively small interference.

2. An electric power steering device as set forth in claim 1, wherein

the engagement arms in a free state not restricted by the first and second engagement members are arranged at intervals which include a relatively great interval as measured circumferentially of the main body and a relatively small interval as measured circumferentially of the main body.

3. An electric power steering device as set forth in claim 1 or 2, wherein

the engagement arms in the free state not restricted by the first and second engagement members include an engagement arm having a relatively great thickness as measured circumferentially of the main body, and an engagement arm having a relatively small thickness as

measured circumferentially of the main body.

4. An electric power steering device as set forth in claim 1, wherein

the engagement projections of at least one of the first and second engagement members are arranged at intervals which include a relatively great interval as measured circumferentially of the at least one of the first and second engagement members and a relatively small interval as measured circumferentially of the at least one of the first and second engagement members.

5. An electric power steering device as set forth in claim 1 or 4, wherein

the engagement projections of the at least one of the first and second engagement members include an engagement projection having a relatively great thickness as measured circumferentially of the at least one of the first and second engagement members, and an engagement projection having a relatively small thickness as measured circumferentially of the at least one of the first and second engagement members.

6. An electric power steering device as set forth in claim 1, wherein

at least one of the power transmission faces of the engagement arms includes a cam surface which increases circumferential compression of the elastic member as the

first and second engagement members axially approach each other.

7. An electric power steering device as set forth in claim 1, wherein

at least one of the engagement projections of at least one of the first and second engagement members has a cam surface which increases circumferential compression of the elastic member as the first and second engagement members axially approach each other.